NATURAL RESOURCES CONSERVATION SERVICE
Wyoming
CONSTRUCTION SPECIFICATIONS
FOR
IRRIGATION WATER CONVEYANCE
PORTABLE ALUMINUM TUBING

(Owner/Operator)

(Project/Title)

GENERAL

The pipe shall be installed in accordance with a design and plan approved by the responsible technician. Details of construction shown in the design and plan but not included here shall be considered as a part of this specification. Construction activities shall be in accordance with applicable OSHA regulations.

MATERIALS

Tubing for the pipe shall equal or exceed the chemical composition requirements specified for drawn, extruded and welded tubing in one of the following ASTM Standard Specifications:

B 210 Aluminum and Aluminum-Alloy Drawn Seamless Tubes
B 241 Aluminum and Aluminum-Alloy Seamless Pipe and Seamless Extruded Alloy
B 313 Aluminum and Aluminum-Alloy Rounded Welded Tubes

The minimum wall thickness for pipe supplied under this Specification shall be in accordance with values in Tables 1 and 2.

TABLE 1 – WELDED IRRIGATION TUBING

Outside Diameter	Minimum Wall Thickness	Operating Pressure**
6 inch	0.051 inch*	98 psi
6 inch	0.058 inch	108 psi
8 inch	0.064 inch	92 psi
10 inch	0.064 inch	73 psi
12 inch	0.064 inch	69 psi

Alloy 5050

TABLE 2 – SEAMLESS EXTRUDED IRRIGATION PIPE

Outside Diameter	Minimum Wall Thickness	Operating Pressure**
6 inch	0.058 inch	115 psi
8 inch	0.064 inch	96 psi
8 inch	0.072 inch*	108 psi
10 inch	0.064 inch	77 psi
10 inch	0.094 inch*	112 psi

ASTM 6063-T6

*Not commonly stocked
**72 percent of theoretical yield pressure

Variations from specified dimensions for portable irrigation tubing shall not exceed the amounts shown for welded tube in American National Standard H 35.2, Dimensional Tolerances for Aluminum Mill Products.

JOINTS AND CONNECTIONS

All joints and connections shall be capable of withstanding the rated pressure of the pipe without leakage and shall leave the inside of the pipe free of any obstructions that would reduce the pipe capacity below design requirements.

Gaskets shall be according to pipe manufacture's standard design dimensions and tolerances. The gasket shall be a continuous elastomeric ring and shall make the joint flexible yet water tight.

INSTALLATION

The ground surface along the route of the pipe shall be smoothed and shaped to provide contact along the entire pipe length or the pipe shall be

placed on saddles as specified on the drawings. Pipe shall not be laid directly against rock outcrops.

Appurtenances shall be installed at locations and be of the type as specified on the drawings.

Butterfly valves and gates shall be installed per manufacture recommendations.

TESTING

The system shall be given an operational test. This test shall consist of filling the pipe with water, taking care to bleed of any air in the pipe, and operating the pipe at design working pressure. All of the system components shall operate without difficulty. Leaks shall be fixed and defective materials shall be replaced.

BASIS FOR ACCEPTANCE

Pipe stamped with applicable ASTM requirements of this specification and the manufacturer's name may be accepted without a material certification. A material certification is required for unmarked pipe. The certification will show applicable ASTM, pressure class, manufacturer, pipe size, wall thickness, etc.

ADDITIONAL SPECIFICATIONS